

REMARKS

Claim 1 has been amended by incorporating the limitation of Claim 5 and further by limiting the electric conductivity. Claims 5-8 have been canceled. Claims 22-24 have been added. Support for the amendments to Claim 1 is present in Claim 5 as previously presented and can be found in page 13 line 18-20. Support for new claim 22 can be found in page 12 line 6-7. Support for new claim 23 can be found in page 15 line 2 – page 16 line 15. Support for Claim 24 can be found in page 17 line 25-27. Thus, no new matter has been added. Applicant respectfully requests entry of the amendments and reconsideration of the present application in view of the amendments and following remarks.

Rejection Under 35 USC § 103

Claims 1 and 20-21 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Storow et al (US 3,069,375). The limitation of Claim 5 has been incorporated into Claim 1 and into Claim 20 and 21 by status of their dependency on Claim 1. Claim 5 was rejected as obvious over Storow et al in view of Yamada (JP02-275712A). Accordingly the following addresses the rejection of Claim 5.

The limitation of an electric conductivity of 1 mS/cm has been added to the claim 1. Storow does not disclose this element and with this limitation, the water resistance and anti-staining property of the formed coating film can further be improved. (page 13, line 24-26) The results are demonstrated in the Examples and Comparative Examples. (Table 1-8). The Comparative Example 2 whose electric conductivity is 1.7 mS/cm, constantly shows a low rating at pollution resistance to rain streaking test, while the Examples whose electric conductivities are 0.6 (Examples 1-6) and 0.3 (Example 7) show a high rating.

Further, the limitation from Claim 5, the hydrophobation treatment has been added to the Claim 1. The unexpected results based on this limitation can see in the Examples. (Table 1-8) In the Area of Dropped Water Stream test (cm²), the Examples with the hydrophobation treatment (Example 2-7) constantly demonstrate more than 10% (in some case 100%) improvement over the Example without no treatment (Example 1). As the Examiner states, Yamada teaches that

the hydrophobation provides stability to silica and prevent aggregation. However, Yamada is directed to production method of Colloidal Silica Methanol Sol and does not teach or suggest this would lead to the aqueous coating compound with a high hydrophilicity.

As described above, the results achieved by the present invention are new and unexpected. Applicant respectfully requests withdrawal of this rejection.

Rejection Under 35 USC § 103

Claims 2 has been rejected under 35 U.S.C. 103(a) as being unpatentable over Storrow et al (US 3,069,375) in view of Kano (US 5,891,948).

Claim 2 depends from Claim 1. And as discussed above, the Claim 1 includes novel features which create unexpected results. Also, Kano does not disclose the neutral silica sol recited in claim 1. Thus, even if Storrow and Kano combined, the combination can not lead to claim 1. The Claim 2 can not be rejected on this ground.

Applicant respectfully requests withdrawal of this rejection.

Rejection Under 35 USC § 103

Claims 3 and 7 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Storrow et al (US 3,069,375) in view of Kano (US 5,891,948) and Gagliardi et al.(US 5,961,674).

Claim 3 depends from Claim 1, and Claim 7 has been canceled. And as discussed above, the Claim 1 includes novel features which create unexpected results. Thus, even if Storrow, Kano and Gagliardi et al. combined, the combination can not lead to claim 1. The Claim 3 can not be rejected on this ground. Applicant respectfully requests withdrawal of this rejection.

Rejection Under 35 USC § 103

Claims 4 and 8 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Storrow et al (US 3,069,375) in view of Swarup et al (US 5,506, 325).

Claim 4 depends from Claim 1 and Claim 8 has been canceled. And as discussed above, the Claim 1 includes novel features which create unexpected results. The Claim 3 can not be rejected on this ground. Applicant respectfully requests withdrawal of this rejection.

Rejection Under 35 USC § 103

Claims 5 has been rejected under 35 U.S.C. 103(a) as being unpatentable over Storrow et al (US 3,069,375) in view of Yamada (JP 02-275712 A).

Claim 5 has been incorporated to Claim 1 and canceled.

Rejection Under 35 USC § 103

Claims 1 and 20-21 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Weinberger et al (US 6,008,291). The limitation of Claim 5 has been incorporated into Claim 1 and into Claim 20 and 21 by status of their dependency on Claim 1. Claim 5 was rejected as obvious over Storrow et al in view of Yamada (JP02-275712A). Accordingly following address the rejection of Claim 5.

The same discussion with respect to Storrow et al (US 3,069, 375) is applicable in here. The limitation of an electric conductivity of 1 mS/cm has been added to the claim 1. Weinberg does not disclose this element and with this limitation, the water resistance and anti-staining property of the formed coating film can further be improved. (page 13, line 24-26) The results are demonstrated in the Examples and Comparative Examples. (Table 1-8). The Comparative Example # 2 whose electric conductivity is 1.7 mS/cm, constantly shows a low rating at pollution

resistance to rain streaking test, while the Examples whose electric conductivities are 0.6 (Examples 1-6) and 0.3 (Example 7) show a high rating.

Further, the limitation from Claim 5, the hydrophobation treatment has been added to the Claim 1. The unexpected results based on this limitation can see in the Examples. (Table 1-8) In the Area of Dropped Water Stream test (cm²), the Examples with the hydrophobation treatment (Example 2-7) constantly demonstrate more than 10% (in some case 100%) improvement over the Example without no treatment (Example 1). As the Examiner states, Yamada disclose that the hydrophobation provides stability to silica and prevent aggregation. However, Yamada is directed to production method of Colloidal Silica Methanol Sol and does not teach or suggest this would lead to aqueous coating compound with a high hydrophilicity.

Also, Weinberger allows a large increase of the viscosity in EXAMPLE 3, 4 and 5, ranging from 17.8% to 44.4%, while all the samples of the present invention show that the change in viscosity is less than 10% (Table 1- 8). Thus the present invention demonstrates superior and stable results.

As described above, the results achieved by the present invention are new and unexpected. Applicant respectfully requests withdrawal of this rejection.

Rejection Under 35 USC § 103

Claims 2 has been rejected under 35 U.S.C. 103(a) as being unpatentable over Weinberger et al (US 6,008,291) in view of Kano (US 5,891,948).

Claim 2 depends from Claim 1. And as discussed above, the Claim 1 includes novel features which create unexpected results. Also, Kano does not disclose the neutral silica sol recited in claim 1. Thus, even if Weinberger and Kano combined, the combination can not lead to claim 1. The Claim 2 can not be rejected on this ground. Applicant respectfully requests withdrawal of this rejection.

Rejection Under 35 USC § 103

Claims 3 and 7 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Weinberger et al (US 6,008,291) in view of Kano (US 5,891,948) and Gagliardi et al. (US 5,961,674).

Claim 3 depends from Claim 1 and Claim 7 has been canceled. And as discussed above, the Claim 1 includes novel features which create unexpected results. Thus, even if Weinberger, Kano and Gagliardi et al. combined, the combination can not lead to claim 1. The Claim 3 can not be rejected on this ground. Applicant respectfully requests withdrawal of this rejection.

Rejection Under 35 USC § 103

Claims 4 and 8 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Weinberger et al (US 6,008,291) in view of Swarup et al (US 5,506,325).

Claim 4 depends from Claim 1 and Claim 8 has been canceled. And as discussed above, the Claim 1 includes novel features which create unexpected results. Thus, even if Weinberger and Swarup et al. combined, the combination can not lead to claim 1. The Claim 4 can not be rejected on this ground. Applicant respectfully requests withdrawal of this rejection.

Rejection Under 35 USC § 103

Claims 5 has been rejected under 35 U.S.C. 103(a) as being unpatentable over Weinberger et al (US 6,008,291) in view of Yamada (JP 02-275712 A).

Claim 5 has been incorporated into Claim 1 and cancelled.

New Claims

Claims 22-24 have been added. Claim 22 recites further limitation of a particle diameter of the neutral silica sol (B). This limitation further distinguishes the claimed invention from the cited references. The Claim 23 recites further limitation of "wherein the hydrophobation treatment is carried out by complexing a compound having at least one functional group selected from the group consisting of Alkoxysilane compound, Alcohols, Glycols, Glycol ethers, and Fluorine alcohols with the neutral silica sol (B)." The Claim 24 recites further limitation of "wherein the neutral silica sol (B) is complexed with a polyoxyalkylene group-containing compound." The improved results due to these recited features are demonstrated in Table 1-8.

CONCLUSION

In the light of the applicant's amendments to the claims and the following Remarks, it is respectfully submitted that the present application is in condition for allowance. Should the Examiner have any remaining concerns which might prevent the prompt allowance of the application, the Examiner is respectfully invited to contact the undersigned at the telephone number appearing below.

Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1410.

Respectfully submitted,

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AMEND

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